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NATURAL DISASTER REDUCTION: EFFECTS OF DISASTERS ON MODERN SOCIETIES

Technical session

Addendum

Use of mobile satellite communications in natural disaster preparedness and emergency response

Summary of presentation by Mr. Eugene Staffa, Manager of Disaster, Emergency and Aid Communications, International Mobile Satellite Organization (INMARSAT)

1. The presentation deals with key technical and operational aspects of mobile satellite systems in natural disasters occurring in the densely populated, as well as rural and remote areas. Because mobile satellite communications (satcom) systems are independent of the local infrastructure, weather and other local conditions, they are used in all critical phases of disaster management: monitoring, warning, early intervention, emergency communications and ongoing support during reconstruction and rehabilitation.

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2. Mobile satcoms can be used in sudden or rapid impact disasters (e.g. earthquakes, hurricanes, tsunamis, floods) for the coordination of emergency work, ordering of supplies and sending of status reports, including still pictures and video for damage assessment. For example, mobile satcoms were used very effectively during the Mexico City and Los Angeles earthquakes. In slow onset disasters (e.g. drought in Africa), mobile satcoms are used for contact with field teams, interagency communications and media coverage, as well as for family and social calling.

3. The first mobile satcoms system, INMARSAT, began operations in 1982. It has since become the backbone of disaster and emergency communications throughout the world. INMARSAT is an intergovernmental organization with 72 member States, now serving over 34,000 users via national telecom entities. Among the biggest current users are major international emergency and relief organizations and United Nations agencies.

4. Mobile and portable satcoms are used for on-the-scene communications, as well as for direct connection to international switched networks. Mobile satcoms can significantly improve community emergency preparedness and thus decrease cost in terms of human life and property. Communities with available or pre-positioned mobile satcoms are better able to cope with diaster when it occurs, thus representing a lower insurance risk and a better chance for survival and restarting economic activity. Uninterruptable communications via mobile satcoms are invaluable for liaison with scientists. Monitoring and early warning systems incorporating INMARSAT land mobile, maritime or aero services and other satcoms are in various stages of planning and use. Terminals with activated sensors are available for monitoring of flood, wind or seismic variables and to provide early warning. High speed data services allow transmission of geoinformation systems data for a variety of disaster management or scientific purposes.

5. The continuous evolution of mobile satellite systems is providing users with ever smaller and more capable terminals. New systems based on satellites in a variety of orbits are in the planning or implementation stages.